Lesson Plan

ELO/TOPIC: Number 1.1 / 1.2 Fractions   **Author:** _____   **Grade:** 3 **Lesson Number:** 7 **Date:** Week 3 Term 4 2014

Understandings: Fractional parts must be equal and there is a connection between the fraction name, the number of parts in the whole and their size. Fractions can be modelled in areas, sets and lines (distance), but their meaning is consistent, a fraction's relative size can be determined by proximity to benchmarks and be represented physically on a line, fractions can be written in different forms using different numbers but represent the same quantity.

LEARNING INTENTION	Materials/Preparation
Students will revise their knowledge of fraction, decimal and percentage fractions of collections. Students will review finding the whole when the part and fraction are known and apply this to collections. They will revise the conversion of improper fractions to mixed numbers and visa versa. They will learn techniques to describe a fraction's proximity to benchmarks 0, ½ and 1, including the theoretical half (equivalence of off denominator)	About how much shape x 2, A4 paper, fraction strips, 0, ½ and 1 sorting sheet, fraction walls large and small each, improper to mixed conversion table.

	TEACHING STRATEGIES & QUESTIONS SELECTED	EVIDENCE OF LEARNING
LAUNCH	• Set an oral sharing problem – how could we go about sharing 7 biscuits among 4 friends? How many whole and part biscuits would they get each? • Review shape, line and set models for fractions • Review fractional notation and terms denominator and numerator and their meaning • Review the calculation of fractions of sets and how percentage of sets is much the same – a fraction of amount. Checkout via whiteboards **(F)** Review the 2 techniques used – find a common fraction and use 100 as the denominator	When calculating percentage of amount **Full understanding** = correct conversion to common fraction, accurate use of denominator then numerator to accurately calculate solution **Partial** = correct calculation based on incorrect conversion, correct conversion but calculation or 'ned' mistake **Insufficient** = Conceptual error with conversion (ie 25% is 2/5), confusing denominator with number in the parts
EXPLORE	• Show students a number line (0 – 1) with a dot placed in 1st half. Refer to rope activity from term 2. What do students estimate the position to be? • Students discuss with talking partners then share **(PF) (F)** • Ask the students to estimate a shaded area – VDW 15.8 '**About how much**'. One can be done orally. Put an A3 fraction (computer drawn) on the board. Have students estimate 2 fractions it could be, then share with partner and justify (test question says why did you choose this) **(PF) (F)** • Have students return to desks with a part shaded rectangle – they are to estimate the amount shaded and justify. • Share solutions and techniques • Revise improper to mixed fraction conversion (eighths game). Demonstrate the game and recording • Ask fraction counting, equivalent and improper to mixed questions based on the game. • Ask students to solve improper to mixed questions via whiteboards **(F)** • Have students complete an improper to mixed follow up worksheet (+ extension) **(PF) (F)** • Students return to floor with whiteboards – checkout bigger and smaller than half – summarise how we can easily tell. Refer back to 'eighths game' • Introduce students to proximity to 1, ½ and 0. 2 steps, 1) bigger or smaller than half, 2) proximity from half, 1 or 0 • Students work with elbow partner to place fraction in correct quarter and justify from board	As students estimate areas, **Full understanding** = Reasonable estimate based on number of parts in the whole and number shaded / & or reference to bigger / smaller than half & quarter (evidence show) **Partial** = reasonable estimate, but insufficient explanation to know why **Misconception** = unreasonable estimate, no justification. When converting fractions from mixed to improper **full understanding =** Consistent accuracy and ability to articulate the conversion in terms of parts in the whole and relate this to counting patterns **Partial** = inaccurate conversions but articulates parts in the whole **Insufficient** = Inability to relate parts in the whole to counting patterns (ie number of parts)
SUMMARISE	• Consolidate understanding with students completing 0, ½ and 1 worksheet, marking in partners **(PF) (F)** • Focus on the half numerator for fractions with odd numbered numerators. • What fractions did students find that were 'on the line' • Summarise the learning from this session – fractions of collections (inc percent), worded problems & success criteria, about how much (estimating & justifying), improper mixed conversions, proximity to 0, ½ and 1 • (If time permits, discuss equivalence via fraction wall illustration)	When sorting fractions into closer to 0, ½ and **1 full understanding** = accurate sorting and can justify in terms of proximity. **Partial** = difficulties articulating proximity to ½ when denominator is odd **Insufficient** = inability to articulate proximity to 1 or 0, does not recognise equivalence to half (even or odd)